

Atty. Dkt. No. EPI3007B
(formerly TSRI 184.2C2)

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capable of forming an antigen-specific immunoglobulin when co-expressed in the same cell with the other of said chain from said antigen-specific immunoglobulin; and

b) immunoglobulin single polypeptide product encoded by said nucleotide sequences, wherein said leader sequence is cleaved from said polypeptide product following proteolytic processing of said single polypeptide product.

84. (New) The plant of claim 83, wherein said single polypeptide immunoglobulin product is a multimer.

85. (New) The plant of claim 84, wherein said multimer is a dimer.

86. (New) The plant of claim 84, wherein said single polypeptide product is a multimer of said light chain.

87. (New) The plant of claim 84, wherein said single polypeptide product is a multimer of said heavy chain.

88. (New) The plant of claim 83, wherein said single polypeptide immunoglobulin product comprises a paratope.

89. (New) The plant of claim 83, wherein the immunoglobulin product comprises a glycosylated immunoglobulin molecule free of sialic acid residues.

90. (New) The plant of claim 83, wherein the heavy chain is selected from the group consisting of IgG, IgM, IgA, IgD and IgE.

91. (New) The plant of claim 83, wherein said single polypeptide product is a heavy chain.

92. (New) The plant of claim 83, wherein said single polypeptide product is a light chain.

93. (New) The plant of claim 83, wherein the plant is a dicotyledonous plant.

94. (New) The plant of claim 83, wherein the plant is a monocotyledonous plant.

95. (New) The plant of claim 83, wherein the plant is an alga.

96. (New) The plant of claim 43, wherein said nucleotide sequence encodes the variable region of an immunoglobulin light chain.

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97. (New) The plant of claim 43, wherein said nucleotide sequence encodes the variable region of an immunoglobulin heavy chain.

98. (New) The plant of claim 43, wherein said single polypeptide immunoglobulin further includes nucleotide sequence encoding a linker between the heavy chain and the light chain.

99. (New) The plant of claim 43, wherein the heavy chain is selected from the group consisting of IgG, IgM, IgA, IgD and IgE.

Please cancel claims 21, 32-42, 45-47, 49-52, 54, 56, 60-66 and 68-78 and 80 without prejudice or disclaimer.

Please amend claims 43, 79, 81 and 82 as shown below (a marked-up copy of amended claim 43) is attached under the heading "VERSION WITH MARKINGS TO SHOW CHANGES MADE." For the examiner's convenience, all prior pending claims following entry of the amendments requested herein are shown below.

43 (Twice amended) A plant, comprising plant cells containing:

a) nucleotide sequences encoding an antigen-specific immunoglobulin single polypeptide product containing at least an immunoglobulin heavy chain polypeptide or portion thereof and an immunoglobulin light chain or portion thereof, wherein said nucleotide sequences encode a leader sequence forming a secretion signal for said single polypeptide product; and

b) antigen-specific immunoglobulin single polypeptide product encoded by said nucleotide sequences, wherein said leader sequence is cleaved from said polypeptide product following proteolytic processing and assembly.

44. (Amended) The plant of claim 43, wherein the immunoglobulin product is a single-chain Fv antigen-binding protein.

48. The plant of claim 43, wherein the immunoglobulin product is an abzyme.

53. The plant of claim 43, wherein the immunoglobulin product comprises a paratope.

57. The plant of claim 43, wherein the plant is a dicotyledonous plant.